



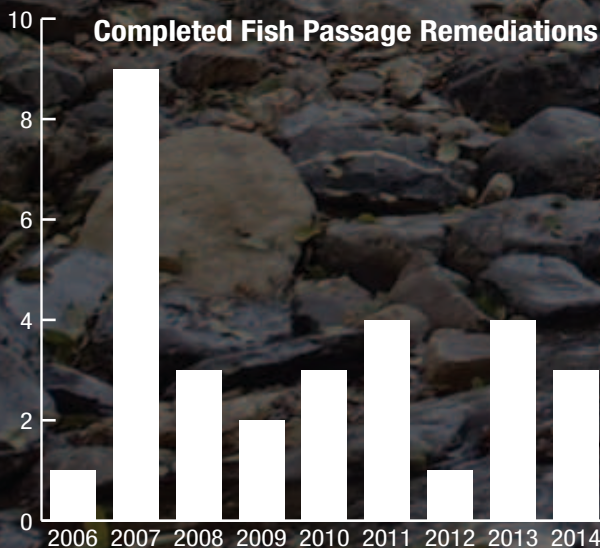
For the

FISH

Converting Barriers into Passages

There are 520 known fish passage barriers on the state highway system and ongoing assessments will likely identify additional locations. Resolving them all is a daunting task, but Caltrans is committed to making more progress in coming years than it has in the past.

Between January 2006 and December 2014, for example, Caltrans removed 30 barriers. Caltrans currently has 24 active fish passage remediation projects programmed, and the 2015 Fish Passage Annual Report sent to the Legislature has identified 48 more as priorities for future programming.



This graph shows fish passage barriers removed each year since 2006. In 2007, nine projects were completed because one larger project included five remediation locations. For the rest of the years, the number of barriers removed were as low as one and as high as four.

Restoring fish access to upstream habitat can be a large undertaking. Consider the Fort Goff Creek Fish Passage Restoration Project under State Route 96 near Seiad Valley in Siskiyou County, a community dependent on the fishing industry for its main source of income.

Caltrans replaced the fish barrier – a 15-foot diameter steel culvert – with a 60-foot span bridge during this 2014 project. Caltrans teams and wild-life experts waded into the creek and relocated approximately 800 fish to begin this \$2.5 million project. It was the culmination of a 10-year effort to secure funding and partnerships between many state and federal agencies, as well as with the Karuk tribe of Siskiyou County.

A year later, adult Chinook salmon have been observed upstream of the highway. The project set very high standards in terms of the relationships built and the careful steps taken to preserve the natural beauty and aesthetics of the area. The Fort Goff Creek project will serve as a model for future Caltrans projects throughout the State Route 96 corridor.

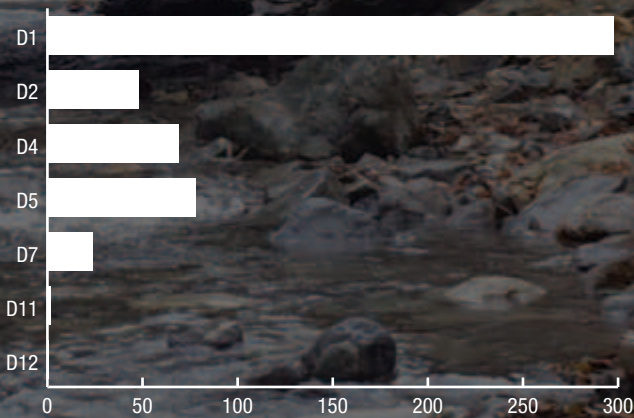
Prioritization of Barrier Locations

Caltrans and California Department of Fish and Wildlife (CDFW) work together to determine the combined priority list of fish passage barriers on the state highway system. Barrier locations are assessed



Number Of Current Barriers

(By District)



While not all of Caltrans districts have known fish passage barriers, Caltrans District 1 located in the northwest coast, has nearly 300 known barriers — more than all the rest of the districts combined.

and prioritized based on the relative value that their removal would provide to habitat of anadromous species — sea-going fish that breed in fresh water — such as salmon. The habitat value of each location is defined by the presence (or historic presence) and diversity of anadromous species — suitable upstream habitat quality and quantity and the localized knowledge of expert fisheries and hydraulic professionals.

The drought has posed additional challenges to anadromous fish migration and the recovery of listed salmonid populations. State and federal partner agencies are working to identify stretches of watersheds that are likely to provide cool water during the late summer and early fall, in order to sustain salmon populations such as Chinook salmon, which have been particularly hard hit by drought.

Moving Forward

Caltrans is working to incorporate the updated list of 48 high priority fish passage locations into existing or future funded projects. Meanwhile, it is working with the National Oceanic and Atmospheric Administration (NOAA) and CDFW to develop standard design solutions for the varied state highway fish barrier types (i.e. culvert replacement, new bridges, weirs), in order to meet species migration needs and to achieve design and approval efficiencies.

In July 2015, Caltrans and NOAA executed an inter-agency agreement, which includes a Caltrans-funded fish passage engineer position. This engineer will work under the direction of NOAA, with a primary focus on Caltrans fish passage locations, to include helping to scope solutions and fish passage design approvals.

Caltrans has a similar agreement with CDFW, which also includes a Caltrans-funded fish passage engineer position, also working under the direction of the partner agency.

After 10 years of delivering fish passage remediation projects, Caltrans is committed to becoming more efficient and expert at planning and implementation. Efforts have been made to increase staff expertise, implement standard designs, and continue partnering with regulatory agencies for permitting and other efficiencies. Caltrans has also demonstrated commitment to remediating barriers to fish on the state highway system by becoming a signatory to the California Fish Passage Forum memorandum of understanding.